

# Volcanic Vistas

## More Kids in the Woods...

"Our most important resource in this country is not forests, vital as they are. It is not water, although life itself would cease to exist without it. It is people. The challenges of climate change and looming water shortages will not be resolved in a few years. It will take generations. Today's children - and theirs - will need to be able to take the baton and continue the race. For that, they will need a full understanding of why forests are so valuable, along with a strong land ethic. It is our job to give them both." - Forest Service Chief Gail Kimbell



**Discover National Forests in Central Oregon**

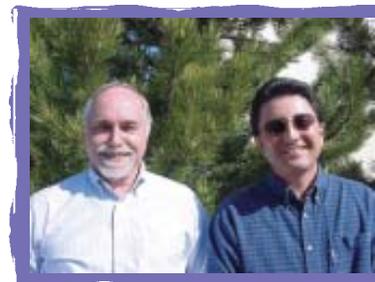
**Summer 2008**

## Welcome to Central Oregon!

The Deschutes and Ochoco National Forests of Central Oregon provide a setting for diverse recreation opportunities while managing for multiple uses. The national forests are managed for and provide valuable wildlife habitat, clean water and streams, and fantastic scenic quality for recreational activities for current and future generations. Maintaining this legacy is foremost in many of our efforts. As such, we are also interested in children and their connection to nature. Today children are spending more time inside playing with video games and computers and not fully exploring the wonders of the outdoors.

The United States Forest Service started the "More Kids in the Woods" initiative to help fund outdoor experiences for youth across the country. As our country becomes increasingly diverse and urban, most of America's children grow up with limited connection to the natural world. We are beginning to see trends in visitation to our National Forests and Grasslands that are revealing a downturn in the numbers of children and adults who participate in outdoor activities. Research showing the benefits of connecting our children with nature, requires us to examine approaches that will encourage greater participation in outdoor activities.

The Forest Service has many strong programs across the agency to address this situation and they reflect a growing recognition of the role and responsibility of the Forest Service to foster the next generation of conservation leaders with our partners. Our efforts strive to connect children with nature and emphasize building environmental literacy—the knowledge and skills needed to make informed decisions and become active citizens.



left to right: Jeff Walter & John Allen

**John Allen**  
Forest Supervisor  
Deschutes National Forest

**Jeff Walter**  
Forest Supervisor  
Ochoco National Forest & Crooked River National Grassland

### What's Your Interest?

The Deschutes and Ochoco National Forests are a recreation haven. There are 2.5 million acres of forest including seven wilderness areas comprising 200,000 acres, six rivers, 157 lakes and reservoirs, approximately 1,600 miles of trails, Lava Lands Visitor Center and the unique landscape of Newberry National Volcanic Monument. Explore snow-capped mountains or splash through whitewater rapids; there is something for everyone. It's easy to see that Mother Nature worked overtime here.



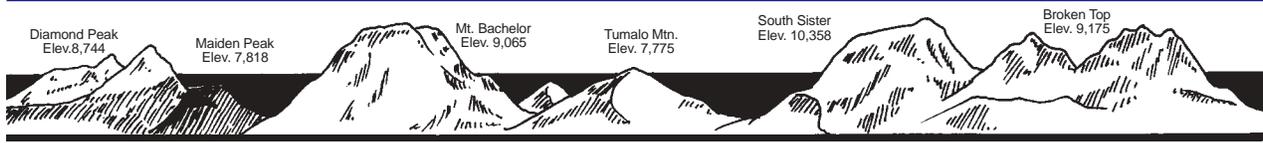
Crooked River National Grassland is the largest grassland west of the Rockies and offers numerous recreational opportunities.

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# Be Safe!

# In an emergency dial 911



## Outdoor Safety

When venturing out for the day, know your limitations. Always carry food and plenty of water... and drink it! Wear sturdy footwear, the terrain here can be rugged and unforgiving. A hat and sunscreen are advisable to protect against heat and sunburn. Do not hike alone. Tell someone your trip plans (destination and estimated return). Use maps. If your vehicle breaks down, stay with it. It is much easier to find a vehicle than a wandering person. Should you find yourself in trouble, don't panic. If you have your ten essentials and have followed basic precautions, help will be on the way.

**Cell phones** should not be relied upon as a top priority safety item. Many areas within and adjacent to the Wilderness areas do not have full coverage so service is not always available and batteries wear out without warning.

**Ticks and Mosquitoes** - Ticks can be found wherever there is vegetation and mosquitoes wherever there is moisture. Prevention is best. Wear light colored clothing, a long-sleeved shirt and pants (tucked into your socks in tick country). Insect repellent containing DEET can be sprayed on your clothing to help repel the little critters. Should you find a tick, remove it immediately. Place tweezers as close to the tick's head as possible. GENTLY pull the tick off.

### Do you have the "10 Essentials" with you?

- Compass
- Extra clothing
- Extra food/water
- First aid
- Headlamp/flashlight
- Knife
- Map
- Sunglasses
- Waterproof matches and/or lighter
- Fire starter

## Volcanic Vistas

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A Special Thank You to all the contributing writers, artists and photographers.



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LaPine Elev. 4,200

## Weather Safety

Central Oregon's weather can change drastically in a short period of time. Be aware whether you're hiking, boating, backpacking or just sightseeing. The summer temperatures can reach 100 in the daytime and may dip into the 30s at night. It can snow in July! Be prepared!

Carrying plenty of water is a must on any outing. Mountain streams look refreshing but could contain the parasite giardia. Before drinking water from these sources, boil it 3 to 5 minutes, or use a 1-micron portable water filter. A hat and sunscreen are advisable to protect against heat and sunburn. Carry a little food, a windbreaker and have a safe visit.

### Weather Averages

Warmest Month .....	Mid-June, July and August
Warmest Day .....	August 1990, 103° F (39.4° C)
Coollest Months .....	December, January and February
Coldest Day .....	January 1980 -23° F (-30.6° C)
Average Yearly Rainfall .....	11-19 inches
Average Yearly Snowfall .....	15-77 inches
Average Days with Sunshine .....	271 days

## Lightning, One Strike, You're Out

Thunder and lightning storms occur frequently. If you are caught in a storm, follow basic safety procedures. Start counting when you see the lightning and stop when you hear the thunder. A ten second count means that lightning is two miles away (4-5 seconds per mile).

### Be safe:

- ★ Take cover indoors.
- ★ Swimming, boating, fishing, **get out** of the water. If your hair stands on end, take immediate action.
- ★ Stay out of windows and doors.
- ★ Avoid trees. Go to a low area.
- ★ A car provides the best cover - roll up all windows, do not touch any metal parts.
- ★ While hiking, carry a 4 foot square piece of polyethylene as an insulator, crouch down on it, **knees and feet together.** Crouching lessens your chances of becoming a lightning rod.
- ★ Groups attract lightning - separate.
- ★ Get away from rocks. Rocks don't hold much water and your body does.
- ★ Get off your horse. It may have metal shoes, bit and rigging in the saddle. If time, unsaddle your animal and put it in the brush.
- ★ Turn off and move away from electronic devices.

## Helpful Web Sites

Deschutes & Ochoco National Forests	www.fs.fed.us/r6/centraloregon
Northwest Forest Pass (to purchase)	www.naturenw.org
U.S. Forest Service	www.fs.fed.us
Bureau of Land Management	www.blm.gov
National Park Service	www.nps.gov
Oregon State Parks	www.prd.state.or.us
Central Oregon Visitors Association	www.covisitors.com
High Desert Museum	www.highdesert.org
Wildlife Viewing Site	www.fs.fed.us/r6/centraloregon/wildlife
The Museum at Warm Springs	www.warmsprings.biz/museum
Sunriver Nature Center & Observatory	www.sunrivenaturecenter.org

## Recreating With Pets

Many people recreate with their pets both summer and winter on National Forest lands and trails. You are responsible for the safety of your pet as well as for the safety of others.

★ Dogs are required to be on leash in developed recreation sites on Forest Service lands which includes campgrounds, day-use areas, and trailheads. Leashes are also required on all day-use areas along the Deschutes River corridor between Benham East and Meadow Camp from May 1 thru October 1.

★ Only a portion of the Three Sisters Wilderness requires dogs to be leashed and under physically restrictive control from July 1 to September 30. Dogs are required to be on leash at Moraine Lake, Green Lakes, Todd Lake, Broken Top and associated trails.

★ On most trails, dogs are not required to be on leash but must be within 15 feet and under reliable physical or voice control at all times.

★ Keep pets under control to prevent fights with other dogs, harassment to wildlife, or injury of other people.

★ Provide your pet with water at these higher altitudes.

★ Avoid taking your pet on jagged rocks and sharp surfaces found on the volcanic terrain.

★ If you lose your pet, call the Humane Society of Central Oregon at 382-3537.

★ If you find a pet, call the Bend Bulletin at 385-5809 to run a "Found Pet" ad for free.

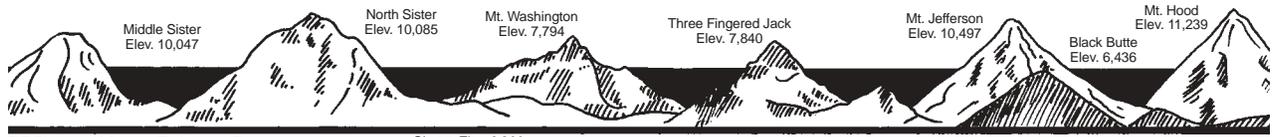
## Car Clouting-15 Seconds or Less

Trailheads, parks and monuments have become increasingly popular sites for car clouting, vandalism and thefts from vehicles. Car clouters prefer to prowl parking lots and campgrounds. If you are hiking or tent camping, take all of your valuables with you or keep them hidden in your trunk. Notify authorities immediately if you see suspicious characters or if you are a victim of car clouting or any other crime.

## Need More Information?

Deschutes National Forest	383-5300
Bend/Fort Rock Ranger District	383-4000
Sisters Ranger District	549-7700
Crescent Ranger District	433-3200
Bend Seed Extractory-tours by appt.	383-5481
Redmond Air Center- tours by appt.	504-7200
Ochoco National Forest	416-6500
Crooked River National Grassland	475-9272
Paulina Ranger District	477-6900
Lookout Mountain Ranger District	416-6500
Lava Lands Visitor Center	593-2421
Historic Paulina Lake Guard Station	536-8802

# Go To Special Places



## What Can I See In ....?

*If you are new to Central Oregon, or just looking for something new to do, here are a few suggestions tailored to fit just about any schedule. Find the location where you want to start and you're on your way to new discoveries.*

### Lava Lands Visitor Center

**One Hour** – See Visitor Center, hike Trail of Molten Land or drive Lava Butte.

**Two Hours** – Explore Lava River Cave or drive to Benham Falls Day Use Area to hike the falls trail.

**Half Day** – Add a visit to Lava Cast Forest.

**All Day** – Add a trip to Newberry Caldera or a visit to the High Desert Museum or visit the Sunriver Nature Center and Observatory.

### Newberry Volcano

**One Hour** – Stop at the Paulina Creek Day Use Site or see the Big Obsidian Flow.

**Two Hours** – Hike the Big Obsidian Flow Trail or drive to the top of Paulina Peak.

**Half Day** – Hike Paulina Lake Trail or Paulina Peak Trail.

**All Day** – Hike a one-mile nature trail at East Butte Lookout.

### Cascade Lakes Area

**One Hour** – Visit Historic Elk Lake Guard Station on Cascade Lakes Scenic Byway.

**Two Hours** – Hike the Ray Atkeson Trail at Sparks Lake or ride Mt. Bachelor's Sunrise Chair to the Summit for a spectacular panoramic view.

**Half Day** – Float on Hosmer Lake, fish any of the Cascade Lakes, or hike Todd Lake for wildflowers in July & August.

**All Day** – Hike 10-miles round trip to Green Lakes.

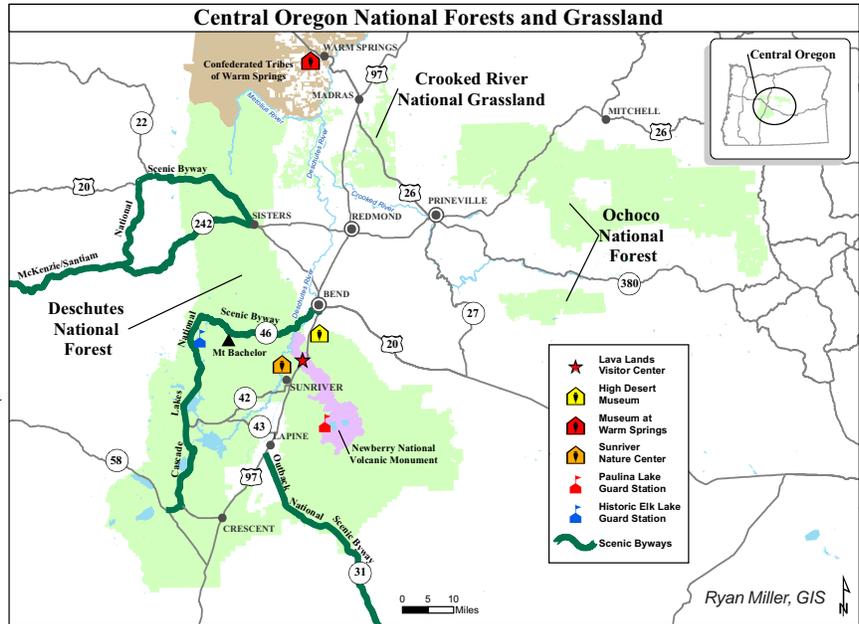
### Crescent Area

**One Hour** – Visit Crescent Lake or Odell Lake.

**Two Hours** – Drive to Walker Mountain Lookout.

**Half Day** – Drive to Big Marsh near Davis Lake and hike two-mile Nature Trail.

**All Day** – Drive Cascade Lakes Scenic Byway to see eagles, osprey and other wildlife at Davis Lake, Wickiup Reservoir and Crane Prairie Reservoir.



### Sisters Area

**One Hour** – Drive to head of the Metolius River, see Mt. Jefferson and hike the river trail.

**Two Hours** – Visit Wizard Falls Fish Hatchery on Metolius River.

**Half Day** – Hike Metolius River Trail or to top of Black Butte.

**All Day** – Drive McKenzie Pass to Dee Wright Observatory then to Proxy Falls, return via Santiam Pass.

### Prineville Area

**One Hour** – Crooked River National Grassland - hike the paved Rimrock Springs trail for some great spots to view birds.

**Two Hours** – Drive to Big Summit Prairie in summer for the wildflowers or up Crooked River to hike Chimney Rock Trail or tour Rimrock Springs for birds and wildlife.

**Half Day** – Drive to Mill Creek Rd to see Stein's Pillar and Brennan Palisades, return to Prineville via Harvey Gap or visit The Museum at Warm Springs.

**All Day** – Visit Prineville Reservoir State Park for boating, fish Crooked River and hike Chimney Rock Trail.

**Looking for a Hike on the Deschutes National Forest?**

**See page 13**

## Discovering the Deschutes River and Black Rock Trail

The fresh smell of ponderosa pine and the soothing sounds of the nearby Deschutes River will greet you as you begin to explore the Deschutes River Trail starting just outside of Circle Seven in Sunriver and intersecting with the Black Rock Trail at the Benham Falls East parking lot while ending at Lava Lands Visitor Center. During the fall of 2003 a seven and a half mile trail was completed by the U.S. Forest Service giving bikers, hikers, and sightseers recreational opportunities to experience and see a part of Central Oregon's unique landscape. When exploring the first three miles of the trail you will wind through a gentle sloping forest overlooking the Deschutes River. You may be fortunate to see different types of wildlife associated with the forest and riparian areas along the river. Animals that inhabit the area include deer, elk, coyote, raccoon, and a variety of birds including eagles and osprey.

The Benham Falls East parking area located at mile marker three provides an excellent setting for taking a break and learning about the history of the area through several interpretive signs. There are restrooms and picnic tables scattered throughout a giant stand of ponderosa pine hundreds of years old. These magnificent orange and yellow trees were left by the Shelvin-Hixon Timber Company so their families could enjoy picnic outings near the river in a park-like setting. The ponderosa pines tell a story of the historical significance of the area associated with the Deschutes River. This is explained at the half mile interpretive trail to Benham Falls and the quarter mile interpretive loop to the old mill site. Forest Service Road 9702 at Lava Butte will take you to the Benham Falls parking area.

The last section of trail to Lava Lands Visitor Center skirts the flanks of a seven thousand year old lava flow from Lava Butte. Lava from this flow backed up the Deschutes River creating many of the cascading waterfalls on the river as you head towards Bend. Lava Lands offers an excellent place to fill your drinking water, take a break, and enjoy displays and exhibits that speak to the past and present features that continue to shape Central Oregon. The best times to use the Deschutes River and Black Rock Trail are May through September. You can start on either end of the trail and parking is available at a pullout northeast of Circle Seven off Forest Road 600 in Sunriver and at the south parking lot at Lava Lands.



- Jason Merwin, Interpretive Specialist

# Kids in the Woods

## How Do you get More Kids in the Woods

There is a growing awareness that today's fast moving pace may be out of step with what humans have been intimately connected to for a long, long time. In a word, nature. In 2007, the Forest Service began a national program titled, More Kids In the Woods, to work with partners and local Forest Service employees to provide more opportunities for youth to discover, experience, explore, and get to know their National Forests up close.

Resources And People (RAP) Camp on the Fremont-Winema National Forest to the east of here, received one of last year's grants. A mix of 43 rural and urban high schoolers between the ages of 14 and 18 came together to learn about the diverse natural resources that make up an ecosystem.

Participants went on field trips and engaged in hands-on outdoor activities learning about forestry, fisheries, wildlife, range, riparian, geology, recreation, wilderness, and cultural resources. Special evening programs and outdoor recreation activities were a big hit. Twelve teachers also attended camp, receiving graduate credits and resources to take back to their classrooms to help them continue to use the outdoors as a classroom.

At the end of the week, their new-found knowledge and team building skills were combined as students and teachers developed and presented a land management plan.

As more concerns are raised about increases in child obesity, diabetes, and too much time spent with electronic "gadgets", ( see Richard Louv's book, *Last Child in the Woods: Saving Our Children From Nature Deficit Disorder*, 2006 Algonquin Books of Chapel Hill) the Forest Service is working



Resources and People (RAP) camp field trip to

with partners to provide ways to connect kids with meaningful, outdoor experiences. The 2008 More Kids In the Woods grants were selected in April (after going to press), offering more opportunities for kids to discover the wonder of their great outdoors.

For more information about RAP Camp, visit: [www.rapcamp.org](http://www.rapcamp.org) - Sue Baker, Conservation Education co-chair, R6

### More Kids in the Woods - Spend the night in a historic Forest Service cabin or fire lookout....

Whether it is winter, spring, summer, or fall, you can experience all of the seasons in a historic Forest Service cabin or fire lookout. Once operated as fully staffed lookouts or remote ranger stations, many of these rentals provide an opportunity to live the life of a ranger or fire lookout. For more information, call your local ranger station or visit: Recreation Lodging <http://www.fs.fed.us/r6/recreation/rentals/>

## Kids in the Creek

From dissecting fish eyeballs to being swallowed alive by a giant salmon tent, the Deschutes National Forest has helped provide educational opportunities for Central Oregon youth, and parents, while having fun. Through partnerships with Kokanee Karnival, Wolfree Inc., Oregon Department of Fish and Wildlife, Central Oregon Flyfishers, Summit High School and the Sunriver Anglers, forest fisheries biologists are able to share their knowledge of fish and their environment to several hundred Central Oregon youth each year.

The Kokanee Karnival program offers a variety of educational experiences. At Browns Creek each fall kids observe live kokanee salmon spawning before their very eyes, learn about what critters fish feast on, and what is required habitat for fish to live. They learn that of about 500 eggs buried in the gravel, only about two will survive to adulthood and return and spawn again nearly three years later. Through the Kokanee Karnival program, kids also participate in an angling clinic where they learn, or improve, on angling techniques such as knot tying, casting, and the proper use of tackle. They also participate in games and stations that increase their

knowledge of salmon life cycles, fish biology, and water safety. As part of this program, each spring fisheries biologists lead hands-on fish anatomy instruction through dissections of rainbow trout. Overcoming their squeamishness, kids enthusiastically identify external and internal parts and learn of their functions. One fact they discover that a fish's age can be determined by observing its scales.

Annually, forest fisheries biologists team up with local groups and agencies to host Free Fishing Day clinics at three locations. Hundreds of children learn the art of gyotaku (fish printing), experience a Native American story within the confines of the salmon tent, talk to a fish that speaks back, and learn to flycast, among other activities.

Mentoring of small groups of youth in hands-on stream related activities is the theme of Wolfree, a non-profit charitable corporation. Students are exposed to scientific investigation on how and why things work, and develop and test scientific hypotheses. Ecological links are made between the components of nature and how they interact and affect each other.

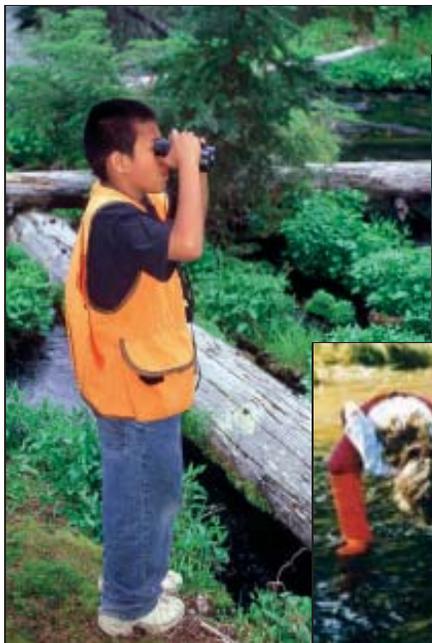
Biologists also team with Highland Elementary School of Bend students for a hands-on "wet" experience along Tumalo Creek. Most kids experience wearing hip waders for the

first time as they sample the stream bottom for what aquatic life, specifically bugs, may lurk between the stones and pebbles. They learn of the bugs dependence on clean streams and their vital role in providing breakfast, lunch, and dinner for trout and other animals along the stream. They look for clues to classify species, such as noting that stoneflies have two tails while most mayflies have three.

For several years, Summit High School science students assisted forest hydrologists and biologists in collecting information important in developing and monitoring of a large-scale stream restoration project on Tumalo Creek. They completed detailed tasks such as stream cross-sections, sediment studies, and slope calculations that hydrologists used to design the restored channel. They learned that a stable stream has a constant ratio between width and depth, and when the banks become eroded due to fire or other disturbances, the ratio is likely to change resulting in poor stream conditions and fish habitat.

Through the various aquatic education programs, the Deschutes National Forest is helping to shape the future for the care and protection of our fish and aquatic resources. These programs may provide the unfolding of the fisheries biologists and hydrologists of tomorrow.

- Tom Walker, fisheries biologist



# Kids in the Woods

## Kids Explore the Wonders of central Oregon

Newberry National Volcanic Monument and other areas of the Deschutes & Ochoco National Forests offer many ways for children to be involved with the natural environment of central Oregon. As a family or school group thousands of acres await for youth to explore and learn more about the geology, climatology, ecology, and cultural heritage of the amazing variety that central Oregon has to offer.

During the summer "ranger talks" are presented to school groups that visit Lava Lands Visitor Center. The 20-30 minute talk introduces the students, which vary from 1<sup>st</sup> grade to high school and even college level, to the basic

concepts of geology within Newberry National Volcanic Monument while incorporating flora, fauna, weather, and cultural aspects of the area. Groups may also visit and explore the features of Lava River Cave and Newberry Caldera.

The winter months bring an abundance of snow to the mountains in central Oregon and offer a great environment to participate in a winter snowshoe program that occurs on Mount Bachelor. From January through March, Junior Snow Ranger snowshoe experiences are offered to local schools every Tuesday, Wednesday, and Thursday. Many of the children are experiencing snowshoeing for the first time and possibly even seeing Mount Bachelor as a first. Snow "rangers" lead the kids on a snowshoe journey into the Mountain Hemlock forest to discover and learn about wildlife adaptations, winter safety, winter recreation, and the importance of snow pack to central Oregon.

In a combined effort to further experiential learning opportunities for kids in the outdoors, the Forest Service, the High Desert Museum and the Northwest Interpretive Association recently submitted two grant proposals to the Forest Service sponsored More Kids in the Woods Program. The goal and desire of which is to reintroduce past environmental education

programs including Project Snow (winter), Newberry Junior Ranger Program (summer), and Time Tracks and Trails (fall). These programs were once a staple on the Deschutes National Forest and we hope to bring them back to life bigger and better than what was previously offered.

So no matter what time of the year it is, Newberry National Volcanic Monument, the Deschutes & Ochoco National Forests and central Oregon offer great environmental education opportunities for the youth of Oregon to learn and explore the wonders of this unique place.

Jennifer Winston, Interpretive Services



## Trapper Creek Annual Outdoor School

On a cold and damp morning this past October, 80 fifth grade students from Oakridge and Gilchrist Elementary Schools converged at Trapper Creek Campground to learn about the environment and strengthen their connection with nature. Thanks to event coordinator Susie Freeman and the hard work of many Forest Service Employees; the 2007 Trapper Creek Outdoor School was a huge success.

Trapper Creek flows out of Diamond Peak Wilderness and into Odell Lake on the Crescent Ranger District. The creek has been the focus of ongoing restoration projects for the enhancement of bull trout habitat. The timing of this education event is no mistake; the fall season brings runs of spawning kokanee to the creek that are attractive prey to the Bald Eagles who nest in the area.

In small groups, the enthusiastic students spent the morning working their way through learning stations that were staffed by Forest Service specialists from the Deschutes and Willamette National Forests. They learned about turtles, invasive bullfrogs, Leave-No-Trace wilderness ethics, outdoor survival methods, tree identification, Bald Eagles, kokanee and bull trout life cycles.

For many of the students this was their first up-close exposure to wildlife. Thankfully, the eagles were especially cooperative this year and remained perched across the creek so that every student had an opportunity to observe them. In addition to an informational presentation and the eagle watching, the students attempted to catch fish "Eagle Style". They had only one chance to pick their moment to swoop down and catch a fish with their human "claw". They soon realized how difficult it is to catch a fish dinner. Many fifth grade "eagles" went away hungry this day. - Tammy Kerr, special forest products-small sales coordintor



Fishing "Eagle Style"

## Tomorrows' Conservation Leaders ... Contributing Today

Connecting people to the land has always been an important part of the Forest Service. Conservation education helps people to learn about natural and cultural resources and the connections of these resources to their lives. The summer youth program on the Ochoco and Deschutes National Forests provides opportunities for today's youth while caring for the land. Last year 16 crews (96 youth) accomplished much needed natural resources work across the two forests. As an added educational benefit - all youth crews participate in three full days of hands on science activities, provided by WolfTree, an award winning science education organization.

The Central Oregon Conservation Youth Corps is made possible through a partnership between Heart of Oregon Corps (HOC), Central Oregon Intergovernmental Council (COIC), Oregon Youth Conservation Corps (OYCC) and the Deschutes and Ochoco National Forests.



Youth crews participated in many natural resource projects such as building and maintaining fences and trails, eradicating noxious weeds, reducing hazard fuel in high risk areas such as near campgrounds.

### Would you like a summer job working for the Central Oregon Youth Conservation Corps?

If you are...

- 16 to 18 years old
- Interested in working outdoors
- Willing to get dirty, work hard and be part of a team

Then consider applying in 2009 for a position on the Central Oregon Youth Conservation Corps. Work starts end of June through mid August.

- Pay: \$7.95 per hour
- 36 hours per week
- 4 day work week/3 day weekends

For an application or more information, see your School to Work counselor or call Lynn Roby on the Ochoco National Forest at 416-6542 or on the Deschutes National Forest call Kevin Foss in Sisters, 549-7710 or David Lee in Crescent, 433-3253.



### Additional Resources:

Deschutes & Ochoco National Forests Conservation Education: [www.fs.fed.us/r6/centraloregon/education/](http://www.fs.fed.us/r6/centraloregon/education/)  
 Naturewatch: [www.fs.fed.us/outdoors/naturewatch/](http://www.fs.fed.us/outdoors/naturewatch/)  
 US Forest Service Kids Page: [www.fs.fed.us/kids/](http://www.fs.fed.us/kids/)  
 US Forest Service Animal Inn: [www.fs.fed.us/r6/nr/wildlife/animalinn/](http://www.fs.fed.us/r6/nr/wildlife/animalinn/)



Crews help reduce the risk of wildfire through hazard fuel reduction projects.



# Experience Today

## Exciting Changes to Lava Lands Visitor Center

A full remodel of Lava Lands Visitor Center building is nearing completion this year. Several phases of the project are needed to complete the entire upgrade. Phase 1 included a facelift of the exterior and interior of the Center. Construction started in the fall of 2006 and was completed spring 2008. A new 1,500 square foot addition to house the lobby, reception area, and gift shop was completed over the last year by architect StastnyBrun of Portland, Oregon. Though the exterior of the facility is now completed, the interior will not be completed until Phase 2, which will begin in autumn 2008.

Also, as part of Phase 2, new exhibits have been designed by Lehrman Cameron Studio of Seattle, Washington. The new exhibits will be fabricated over the summer and will be installed in the autumn after Lava Lands closes for the season. The High Desert Museum worked with the USFS to form the temporary exhibits for summer 2008.

These exciting changes to the visitor center are the first in over 30 years. The interpretive themes of the new exhibits will showcase the interconnections between the geology, ecology, climate, and culture of central Oregon. The grand opening will be held during the summer of 2009 at Lava Lands Visitor Center when the new exhibits and remodel are fully complete.

### The Northwest Interpretive Association

Northwest Interpretive Association (NWIA) is a nonprofit organization dedicated to promoting the discovery of northwest public lands, enriching the experience of visitors, and building community stewardship of these special places today and for generations to come.

Visit NWIA bookstores throughout the Deschutes and Ochoco National Forests at Lava Lands Visitor Center, Bend/Fort Rock Ranger District, Crescent Range District, Deschutes National Forest Supervisor's Office, Sisters Ranger District, and Ochoco National Forest Supervisor's Office.

Proceeds from retail operations are used to fund educational programs, publications, exhibits, speakers, and other services designed to enhance your appreciation of the area.

Become a member of NWIA and receive a 15% discount at NWIA sales outlets at public lands throughout the Northwest (excludes passes, native crafts, and buying for resale purposes).

For more information, please visit our website at [www.nwpubliclands.org](http://www.nwpubliclands.org) or contact us at Northwest Interpretive Association, 164 S Jackson Street, Seattle, WA 98104



## What Do You Do When Nobody is Watching?

What gear and supplies do you carry? Would you feed the ducks, the bears, or the ants? Where do you travel or camp? When? What do you do with the toilet paper, the toothpaste, the horse manure? Should you have a campfire? How do you build one? How many people should go?

The answers to these questions vary with the activity, location, group size, season, peer pressure, what you know and your ethics. Your personal ethics are quietly established as you do what you do when nobody is watching and your personal leadership is shown when you do what you do when anyone is watching. So it is important to recognize that there are indeed choices to make every step of the way as you prepare to lead yourself or others through the outdoors. The Leave No Trace Center for Outdoor Ethics cuts to the core of this decision-making and may just reveal to you that what you learned from grandpa may not be the best path to follow.

At the heart of this international training program are the 7 principles of Leave No Trace (LNT). These principles go well beyond the 'Pack-it-in, Pack-it-out' mantra many people might hastily use to define LNT. As you learn more about each principle and how the fisherman, scout, hunter, boater, can apply them to their activities, you find your impacts to the environment can be easily minimized or eliminated while your enjoyment of the activity is increased.

Who should take time to learn what is beneath the surface of these 7 statements? YOU! ..... and your family, your friends, your scout group, your hiking club, your co-workers.

Here is how you start. Contact your state advocate Georgia Bosse at [rcbosse@aracnet.com](mailto:rcbosse@aracnet.com) to learn of programs in your area or to request one. Options may include a half hour to one day awareness workshop, a two-day trainer course, or a 5-day masters course. There is often little to no charge for workshops or trainer courses.

Visit the LNT website at [WWW.LNT.ORG](http://WWW.LNT.ORG) or call (800) 332-4100 to explore the depth of what the Leave No Trace Center for Outdoor Ethics has to offer every organized and unorganized person and group.

Then simply begin practicing the principles every time you set foot, paddle, hoof, tire, or ski into the outdoors. You inadvertently share this with others, and positively lead by example, when you apply the LNT principles to the choices you make when anyone is watching.

What is the best condition we can leave a place knowing another person, creature, or nobody may be setting foot or paw on the same ground minutes, days or years later? With a continuously growing population and shrinking open space, it becomes a call to ones own personal leadership to make such ethically sound decisions when traveling, camping, playing or just being outside.

### So why LNT?

Leave No Trace to respect the environment, wildlife, other people, and yourself. -Scott E. McBride, special uses administrator

### The 7 Leave No Trace principles:

- Plan ahead and prepare.
- Travel and camp on durable surfaces.
- Minimize campfire impacts.
- Dispose of waste properly.
- Leave what you find.
- Respect wildlife.
- Be considerate of other visitors.

"The earth, like the sun, like the air, belongs to everyone - and to no one." -Edward Abbey

## Water Word Search

Can you find these words in the puzzle below?

hydrologic cycle	sleet	rain
precipitation	vegetation	snow
clouds	evaporation	condensation
transpiration	conserve	glaciers
lakes	fog	life
plants	ground water	water
oceans	streams	desert
rivers	trees	drought

H Y D R O L O G I C C Y C L E W  
 A H Z L M P N O B A W E R E S A  
 C E P R E C I P I T A T I O N T  
 P V T I U C A F J S E K A L P E  
 L A I E S G R D E S E R T L K R  
 I P S A K R P L I A N Q D G O F  
 F O L L P K R D Z C L O U D S S  
 E R E G B C C O N S E R V E I T  
 B A E F D O G A S E E R T X C R  
 C T T R A N S P I R A T I O N E  
 K I A S U D K N I A R A A N A A  
 T O D R O U G H T Z A E P D W M  
 S N I P F N J N K L Z E I K K S  
 R S D I C S P L A N T S I K L M  
 E X L S D A K G L A C I E R S A  
 V S N O W T D F R V S G F O P Y  
 I N J U R I V E G E T A T I O N  
 R R W R T O C E A N S O P T E Y  
 U G R O U N D W A T E R C T A S



Wolfree outdoor education programs at the head of Jack Creek and at Rim Rock Ranch on Wychus Creek

### More Kids in the Woods

# For a Better Tomorrow

## Volunteer Opportunities and Stories in Interpretation

Opportunities for volunteers to interpret the Deschutes National Forest's wealth of resources are available year-round and you can apply any time! Spring and summer season volunteers have fun sharing their knowledge with the public at Lava Lands Visitor Center, Lava River Cave, Newberry Caldera, and the High Desert Museum. During the winter season, ski and snowshoe equipped volunteers enjoy the outdoors while helping with the winter interpretive program at Mt. Bachelor and other locations by leading tours and greeting visitors to the Forest's snow play areas.

Volunteer positions available for summer programs are Volunteer Naturalists and Volunteer Information Assistants. Naturalists assist with interpretive programs at Lava Lands Visitor Center, Lava River Cave, Lava Butte, Newberry Caldera, and other various sites. Volunteer Information Assistants support information desk, book sales, entrance kiosk services, office work, and minor general maintenance at Lava Lands Visitor Center.

Volunteers of all ages are welcome to apply and should be comfortable speaking with the public and greeting visitors. For more information, contact Les Moscoso at the Bend/Ft. Rock Ranger District (541) 383-4712 or [lmoscoso@fs.fed.us](mailto:lmoscoso@fs.fed.us).

The stories below are from two of our long standing and excellent volunteers Bob Burpee and Cheryl Sumerlin. Bob has volunteered many hours of his time to the interpretive programs during both the summer and winter months. He has excelled at planning and helping the programs run smoothly. We treasure his dedication. Cheryl has been with the winter program for eight years now. Her background as a teacher and experience with the program is priceless. Last year they both were honored with the Take Pride in America Volunteer pin and vest. We at the USFS would like to thank both of them for their time and dedication. Enjoy their stories.

*Having recently moved to Central Oregon I was most anxious to learn about our new home environment—volcanoes, the forest, animal life, etc. My wife suggested the U.S. Forest Service might be a good place to start.*

*That was four years ago and I am still as excited and grateful for the opportunities that have become available to me. My education was centered around business, not science, but this did not prove to be an obstacle. The Forest Service has some wonderful instructors to teach you what is necessary to become a volunteer interpreter, which then lead to a better understanding of my new surroundings.*

*We not only learned about those topics previously mentioned, but also about the watershed, avalanches, rock formations, first aid and CPR, among other things.*

*My first assignment was to be stationed at Mt. Bachelor during the winter to conduct public snowshoe tours for both school groups and for adults. These are very popular programs and you have the opportunity to meet people from around the world. Also the people I work with have formed a strong bond—almost like having a second family!*

*During the summer I was fortunate enough to again be stationed at Mt. Bachelor and also the visitor center at Lava Lands, part of Newberry National Volcanic Monument. My work included presenting informative programs, leading interpretive hikes at Lava Butte, and meeting the public at Benham Falls. This was a total different experience from my winter work but just as rewarding.*

*Our program has since expanded to include programs at the High Desert Museum and the Sunriver Nature Center.*

*The U.S. Forest Service has provided me with the knowledge and confidence to be able to speak on a number of issues related to our diverse environment. If you like people, enjoy the exercise in the outdoors, and want to challenge your ability to learn, then I cannot think of a better opportunity—it's a win/win situation! - Bob Burpee*

## High Cascade Forest Volunteers

If you've ever thought you'd like to help maintain the trails and lakes we enjoy in Central Oregon, there are two free trainings each spring at which you can learn the needed skills. Details can be found at [www.fs.fed.us/r6/willamette/admin/volunteer/training/index.html](http://www.fs.fed.us/r6/willamette/admin/volunteer/training/index.html)

Volunteers from local trail clubs are working with the Forest Service and High Cascade Forest Volunteers to put on these trainings free of charge.

Forest Service trail maintenance budgets have been cut dramatically over the past two decades, thus making trail volunteers essential to keep trails open and in good shape. Without more trail volunteers we are in danger of losing some trails.

Please share this opportunity with friends you think might be interested. For more information, contact Jean Nelson-Dean at 541-383-5300.

### Looking to the Future:

Lead Partner Deschutes National Forest supports Vision Element SC 8.1, Forest Stewardship through Conservation Education and the National Forest Foundation. For more information visit [www.bend2030.org](http://www.bend2030.org)



*The suggestion to volunteer for the Forest Service came to me by a friend, and I am glad I took it. I have been volunteering for eight seasons doing public and school group interpretive snowshoe tours. Volunteering has been an enjoyable experience for me. Not only do I get to be outdoors doing something enjoyable, but I get to share with others about wildlife, geology, watershed ecology, and outdoor safety, among other things.*

*One of the great things about volunteering with the Forest Service is the amount of information I have learned. At first, I was concerned that I wouldn't know enough information to lead an interpretive tour. Each year, I learned new things and new ways to share what I know during my tours. I have been able to work with an amazing group of volunteers who also share their knowledge and expertise.*

*Most of my volunteer experience has been with the public tours on the weekends. I have met some wonderful and fascinating people who live in Central Oregon or who are visiting the area. Each day I volunteer, I meet someone new, and that is part of the fun with this experience.*

*My time leading snowshoe tours up at Mt. Bachelor is something I look forward to each winter. I enjoy the people I meet, the activity I do, and being able to share my knowledge about the area. - Cheryl Sumerlin*



Cheryl and Bob receive Take Pride in America awards for outstanding contributions.



Bob with kids during a winter snowshoe program



More Kids in the Woods

## Visiting Caves

Caves can be explored and protected on the Deschutes by observing proper caving etiquette and any cave restriction signs or gates you encounter. A good lava tube to visit is Lava River Cave. At one mile in length, it is the longest uncollapsed lava tube in Oregon. It is one mile south of Lava Lands Visitor Center on Highway 97 and open May 2-October 14. Boyd Cave, near China Hat Road/Road 18, southeast of Bend is open year-round. Both of these are good caves to take kids in as the walking is relatively easy.

### Cave access restrictions

Most caves in the vicinity of China Hat Road/Road 18 are closed from October 15-May 1 to protect hibernating bats. Some are closed during the summer to protect bat maternity colonies. Several cave entrances are also gated to reduce vandalism and protect bats. Skeleton, Wind, and Bat Caves in this area are closed year-round and gated. For private tours in Boyd Cave and Skeleton Cave, contact Wanderlust Tours in Bend.

### Cave Conservation Starts With You

Each year, thousands of your tax dollars are spent removing garbage, investigating vandalism, and repairing gated caves as a result of a few thoughtless individuals. Here's how you can protect caves:

**DO NOT!** The following are illegal inside caves and outside cave entrances.

- \* Smoking or lighting a camp fire or stove fire
- \* Camping
- \* Pets of any kind including dogs
- \* Alcoholic beverages
- \* Glass containers
- \* Littering
- \* Bikes, horses, or motorized vehicles
- \* Removing or defacing any part of a cave including digging at the entrance
- \* Using the cave as a toilet
- \* Using hand-drying agents including chalk or anchors (temporary or permanent)

### DO!

- \* Wear sturdy shoes, take food, water, and two sources of light
- \* Leave only footprints—pack out everything you bring in
- \* Protect bats you see by minimizing time and flashlight use near them
- \* Respect cave closure signs you encounter on public lands
- \* Contact your local caving grotto for more information on caving and cave conservation
- \* Enjoy your public lands respectfully!
- \* Report any damage or illegal activity you see to 541-383-4000.

# Explore Newberry Volcano



Paulina Lake from Paulina Peak, photo courtesy of Sherri Lee

## History

Newberry National Volcanic Monument is just south of Bend, Oregon, off Hwy 97. Community concern for the preservation of the area led to the establishment of the Monument in 1990. The Deschutes National Forest currently manages the Monument to preserve and protect the area's unique geologic and ecological resources. The exceptional scenic and recreational opportunities cover 50,000 acres.

## Geology

Newberry Volcano is one of the largest shield-shaped volcanoes in the lower 48 states, covering over 600 square miles. The Monument is located along a group of faults known as the Northwest Rift zone. A complex geological history indicates that the volcano has erupted hundreds of times during the last half-million years. The most recent eruption was 1,300 years ago suggesting that the volcano is still active.

The caldera of Newberry is commonly referred to as **Newberry Crater** but it is truly a caldera like Crater Lake. This feature formed after a series of collapses following big eruptive episodes and now contains two crystal clear lakes. The Monument also has many other fine examples of common volcanic features such as cinder cones, ash flows, lava tubes and flows, pumice and obsidian deposits.



## Recreation Pass Program on the Deschutes National Forest

Recreation Passes are required on Newberry National Volcanic Monument as well as designated day use sites on the Deschutes National Forest.

Passes accepted are:

- ◆ 3-day Monument Pass
- ◆ National Forest Recreation Day Pass
- ◆ Annual Northwest Forest Pass
- ◆ Interagency Annual Pass
- ◆ Interagency Senior Pass
- ◆ Interagency Access Pass
- ◆ Golden Age Passport
- ◆ Golden Access Passport
- ◆ WA & OR Recreation Pass with the Interagency Annual

All passes are available at Forest Service offices throughout Washington and Oregon. The 3-day Monument Pass is only sold at Lava Lands Visitor Center, Lava River Cave, and Newberry Entrance Station.

## Archaeology

The Newberry area has been inhabited by Native Americans intermittently for the last 10,000 years. Archaeologists hypothesize that early inhabitants used this area in much the same way we do – for fishing, hunting and recreation. Obsidian from Newberry was traded up and down the Pacific Northwest and has been found as far away as British Columbia in Canada. It is unlawful to remove or damage any rock, plant or artifact found within the Monument.

## Recreation

**Boating:** Frequent steady winds make the lakes ideal spots for sailing and windsurfing. Motor boats are permitted on both lakes throughout the summer. There is a 10 mph speed limit in force, and Oregon fishing licenses are required.

**Trails:** Miles of hiking trails explore the Monument; most are open late spring through fall for hiking, horseback riding and mountain biking. The trails are also popular in winter with cross-country skiers and snowmobilers.

- Crater Rim Trail (21 miles)
- Paulina Lake Trail (7 miles)
- Peter Skene Ogden Trail, (8.6 miles) – mountain bikes in uphill direction only
- Paulina Peak (4 miles)

## Wildlife

**Wildlife Observation:** The caldera is a designated wildlife refuge. Mammals include deer, elk, badger, pine marten, and black bear. The lakes are home to osprey, ducks, geese, and tundra swans. A pair of bald eagles nest along the shore of East Lake. The 4,000 foot elevation change within the Monument spans several vegetation zones, including ponderosa pine, lodgepole pine, mixed conifer, mountain hemlock and white pine. All old growth stands are protected.

### Did you Know....

- ◆ The flanks of Newberry are dotted with over 400 cinder or "parasite" cones? Many such cones are found along the Northwest Rift Zone, a line of fissures running from Newberry Caldera to Lava Butte.
- ◆ Based on geophysical and geologic evidence, a magma chamber (molten rock) probably lies 2 to 3 miles below the caldera floor.
- ◆ The Big Obsidian flow, found within the Caldera, formed 1,300 years ago. It is the youngest lava flow in Oregon.
- ◆ The last major caldera forming eruption probably occurred about 200,000 years ago. Since then, the caldera floor has gradually been filled in with ash, pumice and lava.
- ◆ Newberry is not part of the Cascades Mountain Range. It lies at the juncture of three major fault zones in Central Oregon.

## A Fed Bear Could Be A Dead Bear!

If Newberry Caldera is also a wildlife refuge, why would black bears and other animals ever face destruction from animal control officers? The answer is that visitors, thinking they are being kind to the wildlife, feed animals or carelessly leave food where animals can raid it.



Newberry Caldera, the area within the rim of Newberry Volcano, has been a wildlife refuge for nearly half a century. All wildlife there enjoys protection from hunting or harassment by human visitors. The Caldera is also a highly popular recreation area containing 400+ campsites, two lakes, and spectacular volcanic scenery. Sometimes human and animal needs conflict and that most often revolves around food.

American black bears are occasional foragers at Newberry's campgrounds and day use sites. Bears can be very creative at food pilfering and can do extensive property damage trying to find your food. This can range from cooler clouting to breaking vehicle windows or destroying a tent.

Black bears are very dangerous and overcome their fear of people easily. **Keep your pets and children away from bears.** Bears that lose their fear of humans are often destroyed because of the risk they pose for injury to people. It is your responsibility to **store your food, leftovers and garbage out of bear's and other wildlife's sight and smell.**

Chipmunks, ground squirrels and birds may seem harmless, but these animals can be aggressive towards humans, too, biting or scratching to get food. Some may have diseases that humans can catch. Feeding these animals our food encourages them to stop foraging on their own, which can lead to starvation and death during winter.

Help keep wildlife in the Newberry Refuge wild. Do not contribute to the destruction of a bear or other animal by feeding it or improperly storing human and pet food. *-Larry Pratt, Deschutes National Forest*

### What To Do

**One Hour:**  
Lava Lands Visitor Center  
Lava Butte  
Paulina Falls  
Big Obsidian Flow

**Half Day:**  
Benham Falls Trail  
Lava River Cave  
Lava Cast Forest

**Full Day:**  
Newberry Caldera  
Paulina Peak  
Paulina Lake Trail  
East Lake Trail

### Schedules

See page 16 for Visitor Center, Lava Butte and Lava River Cave schedules. Interpretive program schedules will be posted at entrance stations, information desks, and campground bulletin boards. Please check the weekly schedule for times and locations.

### Check for Road Conditions

# Explore Newberry Volcano



## Points of Interest

**1 Paulina Peak**, located four miles by road or trail from Historic Paulina Lake Guard Station, is the highest point within the Monument, 7,985 feet. The 360 degree view includes the Cascade Range from California to Washington; the Basin and Range region of eastern Oregon; and a clear view of the caldera lakes and surrounding landscape. **This road is not suited to trailers or motor homes.**

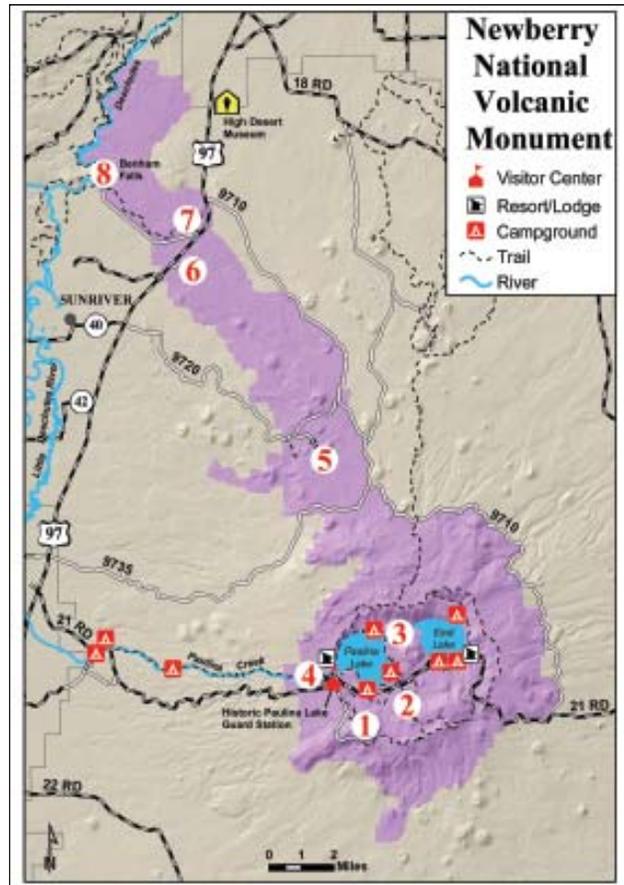
**2 Big Obsidian Flow** is the result of the most recent lava flow of Newberry Volcano, 1,300 years and is the youngest lava flow in Oregon. Over 170 million cubic yards of obsidian and pumice erupted from a vent about a mile south of the trailhead. Native Americans used the glass for trade and tools. A one-mile loop trail and seven interpretive signs guide visitors across a corner of the flow.

**3 Paulina and East Lakes** - The caldera may originally have held one large lake, much like Crater Lake, but deposits of pumice and lava divided the crater into two separate bodies of water. Paulina Lake is one of the deepest lakes in Oregon, 250 feet; East Lake is somewhat shallower, 180 feet. Clear and nutrient rich, both lakes support a large population of trout and salmon, stocked by the Oregon Department of Fish and Wildlife. The lakes offer excellent fishing from late spring through fall.

**4 Paulina Falls** is located just a quarter of a mile west of Paulina Lake Lodge. This dramatic 80 foot waterfall spills over volcanic cliffs into a canyon and is a short walk from the parking lot. Paulina Creek is the only surface outlet for Paulina Lake and has qualified for federal designation as a Wild and Scenic River.

**5 Lava Cast Forest** is approximately 7,000 years old. Lava from vents on Newberry Volcano flowed through a mature ponderosa pine forest. The molten lava enveloped the trees and quickly cooled around them forming a mold. The pines eventually burned to charcoal or ash. A one-mile self-guided interpretive trail winds across the lava flow, which is slowly being claimed again by young ponderosa pines.

**6 Lava River Cave** is located one mile south of Lava Lands Visitor Center on Hwy. 97. The one-mile cave is the longest lava tube in Oregon. Lava tubes form when a river of molten lava creates a channel and the sides eventually crust over to create the roof. The tube kept the flowing lava hot enough to drain out of the channel. The cave temperature is a constant 42½ degrees Fahrenheit (5 degrees Centigrade), so wear warm clothing and carry at least two light sources (only propane lanterns or flashlights please). There is an entrance fee from early May to mid-October and lanterns are available to rent.



Ryan Miller, GIS

**7 Lava Lands Visitor Center and Lava Butte** is 12 miles south of Bend on Hwy. 97. A key hub for travelers and Monument visitors, there are exhibits, a bookstore, water, trails, and picnic tables; a wide array of information services, and an energetic staff of interpreters.

**8 The Deschutes River and Benham Falls** are located on the northwest border of the Monument. The Deschutes offers some of the best flyfishing, whitewater rafting and kayaking in Oregon. A river trail from Sunriver to Bend has beautiful views for the hiker, biker or equestrian. Wildlife watching opportunities include beaver, otter, deer, elk, mink, martins, eagles, osprey and other birds.

## Newberry Caldera: One Lake Or Two?

A question commonly asked about Newberry Caldera's Paulina and East Lake is "Were they ever a single lake like Crater Lake?"

Core samples collected by the United States Geological Survey from a geothermal test well drilled northeast of the Big Obsidian Flow in 1981 do indicate that a large lake existed here in the past. By about 12,000 years ago the separation of the two lakes was essentially accomplished. A small stream may have continued to connect the lakes for a few thousand years after the original lake was divided. This channel would now be buried under younger lava flows south of Little Crater.

Numerous volcanic features now occupy the area separating Paulina Lake and East Lake. The Interlake Obsidian Flows, which are accessible from the Paulina Lake Trail at the north end of Little Crater Campground, formed about 7,300 years ago. The Central Pumice Cone, which is visible on the west shore of East Lake, formed about the same time. - *Larry Chitwood, Forest Geologist*

# Forest Restoration

## Tumalo Creek, Restoration of a Watershed Damaged by Fire

The Tumalo Creek Bridge to Bridge Restoration Project was completed in the fall of 2006, culminating a 4 year effort to restore a stream and associated wetlands severely damaged by a human-caused wildfire over two decades ago.

A camper's fire adjacent to Bridge Creek was left unattended on July 24, 1979, quickly spreading throughout the old-growth stands of mountain hemlock, white fir, ponderosa pine and Engelmann spruce within the Tumalo Creek watershed. Before it was extinguished, over 4,300 acres had been hotly burned, including nearly 3 miles along Tumalo Creek.

The fire left in its wake a damaged watershed. Trees, shrubs, and grasses that bind soils on hillslopes and streambanks, and provide shade and wildlife habitat were nearly eliminated. The exposed ground became susceptible to erosion when rainstorms and snowmelt came, washing sediments into Tumalo Creek



Students help plant seventy thousand seedlings to restore natural vegetation and improve riparian stability. More than 2,100 trees were used to create log jams and pool habitat which in turn improved

and Bridge Creek. Turbidity and sedimentation increased within Bridge Creek, which provides a significant portion of the drinking water supply for the City of Bend. Timber salvage operations soon after the fire removed much of the timber, including that adjacent to the stream. Without the stabilizing influence of streambank vegetation and large woody material instream and on floodplains, Tumalo Creek began to unravel. Erosion of streambanks gradually increased the width of the stream, while becoming shallower and more braided. Pools and fish habitat decreased, and wetland and riparian habitat was lost, and more was threatened by a channel ever-shifting.

Nearly a decade after the fire, it was recognized that Tumalo Creek needed help. Early efforts at restoring the damaged stream focused on adding trees to provide fish habitat but did not address the need for stabilizing the restless channel. Over time, it became apparent these early attempts were not effective and Tumalo Creek continued on a course of instability. Knowledge and techniques of restoration gradually improved since these early efforts, which led to a more thorough and complete analysis of the restoration techniques needed at Tumalo Creek.

Stream restoration design was based on established principles, using past and present aerial photography and data collected on reference reaches, which are undamaged areas of Tumalo Creek and other nearby streams. The channel was designed to decrease channel gradient, make the channel narrower and deeper, and increase the channel sinuosity (meandering) and length. Restoration was accomplished through the physical reshaping of sections of the channel, placing boulder and log jam structures, forming gravel bars, and creating side channels and small ponds. The number of trees within

the channel was increased from about 19 pieces/mile prior to the project to nearly 200 pieces/mile post-project, providing increased fish habitat, including that of the sensitive species redband trout. Over 70,000 native riparian shrubs and trees were planted along the stream to re-establish bank stability and provide future shade and large trees instream. Noxious weeds within the project area were removed as another component of the restoration.

Overall, 2.8 miles of Tumalo Creek was restored to a properly functioning stream with abundant riparian and wetland habitats, providing fish and wildlife habitat. But the work was not done after the last shrub was planted as multi-year student monitoring programs of hydrological and biological parameters have been developed through partnerships with Summit High School and Cascade Science School.

Because of the site's history and proximity to Bend, there are outstanding opportunities to raise awareness of wildfire, sustainable forest practices, habitat restoration, riparian vegetation and other elements of watershed function. The Upper Deschutes Watershed Council includes a tour of the site in *Riverfest*, the region's annual educational event. Multiple permanent interpretive signs related to site history, restoration, and watershed function are being developed and will soon be installed at several locations within the drainage.

Numerous partner contributions made this project possible. Major funding partners have included the Upper Deschutes Watershed Council, National Forest Foundation, Oregon Watershed & Enhancement Board, and the Deschutes River Mitigation & Enhancement Board. Oregon Department of Fish & Wildlife and Hap Taylor and Sons also contributed.

- Tom Walker, fisheries biologist

## What is prescribed fire and why use it?

Prescribed fire is one of many tools land managers use to accomplish ecological objectives such as, removing hazardous fuels, and controlling weeds and other vegetation. Prescribed fires are intentionally set under specific weather conditions so as to alleviate or mitigate any concerns or issues with smoke.

While people value the glow of a candle, or the comforting crackle of a campfire, that relationship doesn't extend to smoke. We may bask in the heat of a fire, but we dodge the smoke that makes us cough and our eyes tear up.



Smoke can affect human health in the form of particulate matter. In summer, wildfires burning for weeks can produce a significant amount of smoke. Depending on conditions, smoke can settle in and affect air quality for days. Just ask Sisters area residents - the post summers of large scale fires like the B & B, Cache Mountain, Black Crater and Lake George, left them socked in for weeks. Sometimes it feels like, just when fire season is over, smoke from prescribed fire fills the air again.

### So, why do we burn?

There are several reasons why we use prescribed fire as a land management tool:

- It's a cost-effective way to reduce hazard fuels and lessen wildfire intensity.
- It reduces flame lengths and increases the ability of firefighters to protect homes and lives.
- It maintains and improves ecosystem health by recycling nutrients and decreasing competition for resources like sunlight and water.
- It can also improve wildlife habitat by increasing food supplies such as native grasses, forbs and shrubs.

### What about the smoke it creates?

For prescribed burn managers, the goal is always to have prescribed fires burn quickly and cleanly, and for smoke to be carried up and away from the area. Although every effort is made to avoid smoke drifting into neighborhoods, predicting weather patterns and smoke dispersal is not a perfect science. Forecasts, even those received hours before a prescribed burn, can change. For that reason, conditions are watched constantly and many times, scheduled burns are cancelled at the last minute if things aren't right for meeting that goal.

In addition to smoke from local, federal and state projects, smoke may come from a variety of sources such as private field and debris burns, industrial forest operations, and can even drift in from other regions. To avoid being part of the smoke problem, the Forest Service, Bureau of Land Management and Oregon State Department of Forestry, work closely together to plan and carry out prescribed fire projects.

- Lisa Clark, Fire Mitigation Specialist

## Water Milfoil - An Unwanted Hitchhiker

East and Paulina Lakes are prized recreational sites within the crater of Newberry National Volcanic Monument. What a unique experience to fish inside the caldera of a volcano. Preserving this experience requires your assistance.

East Lake is suffering from the introduction of the invasive aquatic weed Eurasian watermilfoil (*Myriophyllum spicatum*). This invader can displace native plants, alter water quality, diminish fish habitat, and hinder boating. Eurasian watermilfoil is an extremely adaptable plant. It grows in depths up to 30 feet, thrives in Central Oregon's sunny summer's, and is not deterred by temperature extremes - even surviving Newberry

Crater's cold winters under the lake ice.

Eurasian milfoil and other aquatic invasive plants and animals are often unknowingly spread from lake to lake by boaters and fishermen. So what can you do to help prevent the spread and preserve your favorite lakes?

Clean your boat, motor, trailer, anchor, gear and vehicle of any plants and animals before and after launching.

Drain all water from boats, trailers, tackle and gear before leaving the area.

Dispose of livewell water, bait, plants, and other material away from shore or in trash cans.

Please do your part to keep Central Oregon's beautiful lakes and rivers free of Eurasian watermilfoil and other invasive



species, and thanks for encouraging your friends and neighbors to do the same.

To report invasive species call (toll free) 1-866-INVADER, or the Deschutes National Forest at (541) 383-5300 or (541) 383-4787.

- Mona Derby, biological science technician

# Discover the Natural World



Two eagles perched above Big Bear Lake, San Bernardino National Forest, California. Photo courtesy of Marc Stamer.



Coming in for a landing, Lake Hemet, San Bernardino National Forest. Photo courtesy of Heidi Sellers.

## Bald Eagles

When America adopted the bald eagle as the national symbol in 1782, the country may have had 100,000 nesting eagles. Oregon now has 470 breeding pairs with 9,789 pairs throughout the lower 48 states.

The bald eagle population plummeted towards extinction during the mid-20<sup>th</sup> century because of the use of the pesticide DDT. Eagle eggshells were weakened by the pesticide leading to decreased bald eagle reproduction across the country.

Bald eagle populations across the United States have made a marked recovery with protection under the Endangered Species Act. Recovery was so successful that they were delisted in the summer of 2007.

Annual bald eagle surveys continue throughout the country to ensure the continued success of our national symbol. Community volunteers and biologists work together in the monitoring efforts on the Deschutes National Forest.

Distinguished by a white head and white tail feathers, bald eagles are powerful, brown birds that may have a wingspan of 8 feet. Male eagles are smaller with a wingspan of 6 feet. Bald eagles live near rivers, lakes, and marshes where they can find fish, but will also feed on waterfowl, turtles, rabbits, snakes, and other small animals and carrion. Eagles mate for life, choosing the tops of large trees to build nests, which they typically use and enlarge each year. Bald eagles may live 15 to 25 years in the wild.

Human activities affect the health and behavior of bald eagles. During breeding season bald eagles are especially sensitive to disturbance. Disruptive activities near eagle nesting sites can result in nest abandonment. Unattended eggs or young that are vulnerable to predation and the elements can result. Disturbances can prevent eagles from feeding or taking shelter.

### Help Protect Eagles

Although the bald eagle is no longer listed as an endangered or threatened species, it is still protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. These acts provide criminal and civil penalties for persons who pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb eagles. A violation can result in a fine of \$100,000 or imprisonment for one year, or both.

Comply with all vehicle closures and report any suspicious behavior directed at eagles to the Oregon State Police at (800) 452-7888, the Deschutes County Sheriff's Office Central Dispatch at (541) 416-6800 or the Bend Fort Rock Ranger District at (541) 383-4000.

- Mona Derby, biological science technician

### Looking for Bald Eagles in Central Oregon?

Nine pairs live year round at Wickiup Reservoir. In response to an abundant supply of catfish from spring through fall, another 30 to 40 adults and immature eagles gather here. Eagle wing tags at Wickiup indicate birds have come from as far as California and Arizona.

Wickiup's shallow basin provides warm water habitat for catfish. As reservoir waters recede in response to irrigation draw downs, fish concentrate in remaining pools and become easy prey for hungry eagles. Reservoir catfish and brown and rainbow trout from the Deschutes River make up a large part of their diet.

### Want to see An Eagle from home?

Go Online! - The Deschutes has launched a webcam of a Bald eagle nest. You can catch a glimpse of eagle life by logging onto the link below. There is also a history of the site, info on all the partners, and video of the 2006 fledglings. [www.fs.fed.us/outdoors/naturewatch/vidcam.htm](http://www.fs.fed.us/outdoors/naturewatch/vidcam.htm)

## Bears 'n' You

DON'T feed the bears - Why? see article on page 8

A black bear becomes an adult at about 3 1/2 years of age.

When do you become an adult?

An adult black bear's average height, standing upright: 4 1/2 to 5 1/2 ft.

Your height:

An adult black bear weighs 250 to 350 lbs.

Your weight:

The average birth weight of a black bear cub is 8 ounces

Your birth weight:

The average weight of a one-year old cub is 45 lbs.

Your weight at one year:

A black bear stays with its mother for 16 months

How many years will you likely live at home?

An adult black bear has 42 teeth

Number of teeth you have:

An adult black bear can run 30 mph for short distances

How fast can you run?

The black bear's average life span in its natural environment: 6 years

Human's average life span:

The black bear's average heart rate: 40 beats per minute.

What is your heart rate per minute?



black bear and eagle, neighbors on the Tongass National Forest in Alaska. Photo courtesy Anan Wildlife Observatory staff



Black bear getting ready for hibernation. Photo courtesy of Don Virgovic

## Everyone Pays for Vandalism

Each year thousands and thousands of your tax dollars, that could be spent on improving your recreational opportunities, are instead spent repairing damage caused by vandalism.

Last year, employees of the Deschutes National Forest spent time and money removing graffiti from cave walls; removing illegally dumped garbage, abandoned vehicles and appliances; and repairing damage to cultural resources. If you see vandalism occurring - please report it!

## Naturescaping

Collecting wild plants is allowed on some public lands, with a permit. Call your local Forest Service office to find out which plants can be collected and where.

# Discover the Natural World

## Life Underground

### Lava tube caves

One of the most curious landforms found on the Deschutes National Forest are the more than 400 lava tube caves—the largest concentration of caves in Oregon. These lava tube caves were formed thousands of years ago when lava flowed overland from vent eruptions on the flanks of Newberry Volcano south of Bend.



Lava River cave

Lava tubes are made of pahoehoe (pronounced puh hoi hoi), a type of extremely hot, smooth basaltic lava that streams quickly across the land. A hollow tube is all that is left behind when the vent stops erupting and the channel drains the lava.

### Cave critters

Caves have long been considered harsh environments where few life forms could survive. Most cave dwellers, like bats, must come out to feed; spiders and bugs must depend on food sources to be brought into caves, usually by other animals.

Nonetheless, caves provide habitat for squirrels and packrats, larger mammals including deer, mountain lions, and coyotes, and birds, reptiles and amphibians.

### Invertebrates

Ongoing studies of the area's lava tubes by the Oregon High Desert Grotto in Bend, a local chapter of the National Speleological Society, have uncovered several cave adapted insects, some possibly new to science. These creatures probably live their entire lives underground. Cave adapted insects are often all white, as they have lost pigmentation over many generations. Pigmentation is useful camouflage for insects above ground, but in dark caves it offers no advantage. Cave species often are larger and slower growing than their relatives above ground. Eyes are often smaller or absent as they are not useful in dark caves. Antenna or legs are often larger to navigate better in the dark.

At the end of the Ice Age, Central Oregon became drier as huge lakes retreated into dry plains of sage. Millipedes that previously lived on the surface in rotting leaves and plants may have taken refuge in damp caves, which provided a unique oasis in a changing climate. There have been all white millipedes found in three caves in the area.

### A primitive survivor?

Campodeans are similar in size and shape to the silverfish that often live in houses. When this bizarre, all white insect was first encountered, it definitely appeared to be cave adapted. So far, they have only been found in one cave locally. There were possibly some found in two other caves in the 1970s. These primitive insects are not well-studied and their soft, fragile bodies make collection difficult. Scientific identification of these invertebrates requires an electron microscope and can take several months.



Campodean species. Photo courtesy of Neil Marchington

### Bats

Although not all bats live in caves, several species inhabit lava tubes and the surrounding forests on the Deschutes for some or all portions of their life. Like other mammals, bats are warm-blooded, have fur, and nurse their young with milk. Unlike other mammals, they are the only ones capable of true flight.

Bats live 10 to 30 or more years, making them relatively long-lived small mammals. They have complex life cycles that include hibernating during the winter or migrating south to warmer climates, finding places to hang out (or rather, hang down by their feet) for shelter from predators and for sleep during the day (day roosts), and finding night roosts to rest.

In addition to caves, bats may roost behind loose bark on large ponderosa pine and other tree snags, in tree foliage and cavities, rock crevices, buildings and mines. Bats need habitat that provides insects and other prey, disturbance-free areas to birth and rear young, and water sources for drinking and foraging (catching insect prey).

### Townsend's big-eared bat

This bat really lives up to its name with ears that can reach 1 ½ inches, which is a lot considering their bodies are only 3-4 inches long and they weigh less than half an ounce. They have a wingspan of 11-13 inches and can live up to 16 years or longer. They are highly dependent on lava tube caves for wintering, birthing, and roosting. This species is declining on the Deschutes and throughout the West due to human disturbance in caves and habitat loss. It is a Forest Service Region 6 Sensitive Species and biologists are actively monitoring them.



Townsend's big-eared bat (*Corynorhinus townsendii*). Photo courtesy of Diane Probasco, U.S. Forest Service

### Hibernation

Similar to bears, Townsend's and other bats build up their fat reserves in late summer and fall to survive winter. Unlike bears which reduce their metabolism and body temperatures somewhat, bats are true hibernators by becoming extremely inactive and reducing their body temperature to near freezing. They will occasionally awaken to move to other areas in the cave. However, if they have to move additionally as a result of disturbance from humans, they may not survive the winter. It can take 30-45 minutes for a bat to awaken after it is disturbed. People usually disturb bats by accident and are not aware of their impacts. Most lava tube caves are closed from October 15-May 1 to protect hibernating bats (see *Visiting Caves* on p. 7).

Townsend's are also sensitive to disturbance at their maternity colonies. Townsend's mate during the fall and into early hibernation; however, fertilization does not occur until spring after females move from their wintering area known as hibernacula to form maternity colonies in caves. Their young—called pups—are born between May and July.

You can help protect Townsend's and other bats by respecting posted cave closure signs and gates at winter hibernacula and maternity colonies. If you do encounter hibernating or roosting bats, minimize the time spent near them, avoid talking, and do not shine your flashlight directly on them as this can cause them to awaken.

Another interesting bat in Central Oregon is the Pallid bat (*Antrozous pallidus*). This bat often lands on the ground and crawls along to hunt for scorpions, centipedes, ground-crawling beetles, lizards, and even mice! It is common in arid regions near water but may also be found in open forests. It hibernates in caves as well as in structures, and roosts in groups in cliff faces, rock crevices, buildings and trees.

If you would like to become more involved with caves and/or bats, please contact the Deschutes National Forest at 541-383-4000. - Julie York, Wildlife Biologist & Neil Marchington, Oregon High Desert Grotto



Pallid bat (*Antrozous pallidus*). (c) Merlin D. Tuttle, Bat Conservation International, www.batcon.org

For more information on bats, visit the following websites:

Deschutes National Forest:  
[www.fs.fed.us/r6/centraloregon/wildlife/species/mammals/bats](http://www.fs.fed.us/r6/centraloregon/wildlife/species/mammals/bats)  
Bat Conservation International: [www.batcon.org](http://www.batcon.org)

For more information on lava cave geology and anthropology, visit Deschutes National Forest website at:  
<http://www.fs.fed.us/r6/centraloregon/geology/index.shtml>

For more information on caving, visit the following websites:

National Speleological Society at: [www.caves.org](http://www.caves.org)  
Oregon High Desert Grotto\*\* [www.ohdgrotto.com](http://www.ohdgrotto.com)  
Oregon Grotto\*\* [www.oregongrotto.com](http://www.oregongrotto.com)  
Willamette Valley Grotto\*\* <http://www.caves.org/grotto/wvg/>

\*\*Caving grottos are dedicated to the discovery and preservation of caves including their study by scientific means.

# Discover the Natural World

TRAIL NAME	Trail No. (corresponds to Deschutes Natl Forest Map)	Length Miles (*Miles one-way)	Elevation Low-High	Season	Difficulty	Horse	Mt. Biking (UP = uphill only)	Bird/Wildlife Viewing	Geological Interest	Forest	Panoramic Views
<b>Bend/Fort Rock</b>											
Charlton Lake	19	10	5500-7100	Jun-Nov	Diff.	X	X	X		X	X
Crater Rim	3957	21	6330-7600	Jun-Nov	Diff.	X	X	X	X	X	X
Coyote Loop	3962	6.6	4050-4350	Mar-Dec	Mod	X	X				
Hoffman Island	3959	1.0*	5500-5600	May-Nov	Easy	N	N		X	X	
Lava Butte	3918	0.3	4950-5000	May-Oct	Easy		N	X	X	X	X
Lava Cast Nature	3960	0.9	5750-5850	May-Nov	Easy		N		X		
Little Crater	3953	1.5*	6330-6850	Jun-Nov	Mod.		N		X		X
Lost Lake	3958.2	3.9*	6440-7400	Jun-Nov	Diff	X	X		X	X	X
Mt. Bachelor	30	1.6*	6200-9000	Jun-Nov	Diff				X		X
Newberry Crater	3958	8.7*	6350-7300	Jun-Nov	Mod	X	X	X	X	X	X
North Fork	24.2	3.5*	4950-6100	Jun-Nov	Mod		UP	X		X	
Obsidian Flow	3958.1	0.5	6420-6560	Jun-Nov	Easy	N	N		X		X
Osprey Point	29	0.3*	4450-4500	May-Nov	Easy	N		X			
Paulina Falls	3954	0.5*	6120-6280	Jun-Nov	Easy				X	X	
Paulina Lakeshore	3955	7	6330-6560	Jun-Nov	Mod	N	N	X	X	X	X
Paulina Peak	3951	0.5*	7800-7980	Jun-Nov	Diff	N	N	X	X	X	X
Peter Skeen Ogden	3956	9.5*	4300-6329	May-Nov	Mod	X	UP	X		X	
Ray Atkeson Loop	4.3	2.5	5400-5450	Jun-Nov	Easy	N	N	X	X	X	X
Swamp Wells	3961	20.8	4000-7480	May-Dec	M-D	X	X		X	X	
Swampy Lake	23	8.5	5350-6100	Jun-Nov	Mod	X	X	X		X	
Molten Lands	3922	0.5*	4500-4550	Apr-Dec	Easy	N	N		X		
Tumalo Mountain	38	1.5*	6200-7700	Jun-Nov	Diff	N	N	X	X	X	X
Whispering Pines	3930	0.3	4500-4500	Apr-Dec	Easy	N	N	X	X	X	
<b>SISTERS</b>											
Black Crater	4058	7.6	4900-7251	Jun-Oct	Diff	X			X	X	X
Metolius-Windigo	99	37.6	2900-6600	Jun-Oct	Mod	X	X			X	
Metolius River Trail	4020	10	2750-3000	Mar-Oct	Easy			X		X	
Suttle Lake Shore	4030	3.2	3450-3500	Mar-Oct	Easy		X			X	
Sisters Mt Bike Trail	4090	15	3200-3800	Mar-Oct	Mod		X		X		X
Squaw Creek Falls	4080	0.9	4800-5200	Mar-Oct	Mod	X		X	X	X	
<b>CRESCENT</b>											
Cowhorn Mt.	2000	12.7	Smt 7664	Jun-Nov	Mod	X			X		X
Diamond Peak	2000	18.2	Smt 8744	Jun-Nov	Mod	X	N	X	X		X
Moore Creek Trail	40	7.5*	4850-5450	Jun-Nov	Easy	X	X	X		X	
Maiden Lake Trail	41	6.0*	5200-6000	Jun-Nov	Mod	X	X	X		X	
Maiden Peak Trail	41.1	2.7*	6300-7800	Jun-Nov	Diff	X	X		X	X	X
Whitefish Creek	42	14.3*	4800-6200	Jun-Nov	Easy	X		X		X	X
Snell Lake Trail	43	8.5*	5500-6200	Jun-Nov	Easy	X		X		X	
Crater Butte Trail	44	13.7*	4850-6200	Jun-Nov	Mod	X		X		X	
Fawn Lake Trail	44-A	4.7*	4900-5650	Jun-Nov	Easy	X	N			X	X
Stag Lake	44-B	0.7*	5900-6000	Jun-Nov	Easy	X				X	X
Oldenberg Lake	45	9.7*	4950-5950	Jun-Nov	Easy	X	X	X		X	
Summit Lake	46	10.9*	5500-6200	Jun-Nov	Easy	X	X			X	
Yoran Lake	49	5.3*	4800-5950	Jun-Nov	Easy	X				X	
Windy Lakes	50	5.7*	4680-6300	Jun-Nov	Mod	X	X			X	
Rosary Lakes / PCT	2000	22	4950-7100	Jun-Nov	M-D	X	N	X		X	X
Big Marsh Nature	3888	2.6*	4730	Jun-Nov	Easy	N	N	X			



**Wildlife on the Web...** Are you ready to explore the natural world around you? The Central Oregon Wildlife Viewing Website makes it easy and fun! Explore your wildlife viewing options, print a customized guide, then get outside! Local wildlife biologists are available online to answer your questions. Visit [www.fs.fed.us/r6/centraloregon/wildlife/index.shtml](http://www.fs.fed.us/r6/centraloregon/wildlife/index.shtml)



Check out the eagle webcam: [https://www.notes.fs.fed.us/wo/wfrp/find\\_a\\_photo.nsf/eaglecam](https://www.notes.fs.fed.us/wo/wfrp/find_a_photo.nsf/eaglecam)

### White-Nose Syndrome and bats -

In 2007 and 2008, biologists in the Northeast observed thousands of wintering bats dead or dying in several major cave hibernacula. Many of the dead bats had a white fungus on their noses and occasionally other parts of their bodies. As of early April 2008, biologists had identified white-nose syndrome (WNS) in at least 25 sites in New York, Vermont, Massachusetts, Connecticut and possibly Pennsylvania.

It is not known if the fungus is causing bat deaths or is symptomatic of a disease. It isn't always visible to the naked eye and rarely visible on bats found flying or dead outside of their hibernacula. Affected dead and dying bats are generally emaciated, and those found outside caves are often severely dehydrated.

Human health implications are not known; currently, there is no information indicating that people have been affected after exposure to the white fungus.

WNS has not been documented in the western U.S., however it is possible that it could be transmitted between caves by people. You can help by becoming more informed, observing cave restrictions, and properly cleaning caving equipment if you have recently caved (within the past 2 years) or plan to cave in the eastern U.S. For more information on WNS and equipment decontamination, go to the U.S. Fish and Wildlife Service's website at [http://www.fws.gov/northeast/white\\_nose.html](http://www.fws.gov/northeast/white_nose.html).

## Happy Birthday Deschutes National Forest!

### Celebrating 100 years in July

Check local schedules or the Deschutes National Forest website ([www.fs.fed.us/r6/centraloregon](http://www.fs.fed.us/r6/centraloregon)) for any special events.

### Did you Know?

Contrary to popular belief, bats are not blind and most have good vision. Many of the largest bats in the world known as "flying foxes" do not use sonar at all and rely on their highly acute vision to find fruit. These are found in Asia, Australia and Africa. In tropical regions, bats are critical pollinators and seed dispersers for many economically important products including bananas, mangos, figs, cashews, tequila and commercial timber!

**The Real Bug Zappers** - Insectivorous (insect eating) bat species consume tons of insects species nightly including mosquitoes and some agricultural and forest pests. Bats forage along streams, in forests, over water bodies, and maybe in your backyard. Many of the up to 14 bat species on the Deschutes can be seen flying at dusk to begin their nightly quest for a wide variety of beetles, flies, crickets, gnats, mosquitoes, and wasps. The Townsend's big-eared bat is a Lepidopteran specialist, which means it primarily eats moths. The largest bat on the Deschutes—the hoary bat—may even eat a tiny western pipestrelle bat on occasion in addition to insects.

### More Kids in the Woods

# Discovery in the Kids' Corner

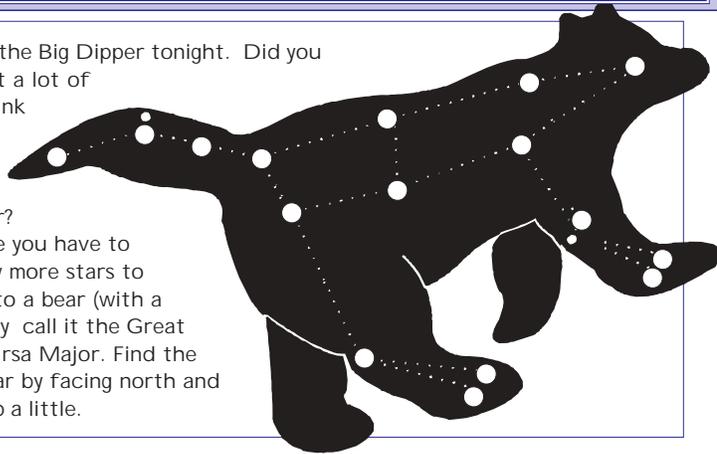


## Your Unhuggable Bumper Sticker

Pick your favorite unhuggable and make a bumper sticker for it. It can be any animal and any design. Have fun!



Look for the Big Dipper tonight. Did you know that a lot of people think the Big Dipper looks like a bear? Of course you have to add a few more stars to turn it into a bear (with a tail?). They call it the Great Bear or Ursa Major. Find the Great Bear by facing north and looking up a little.



## What's an "Unhuggable"?

Unhuggables are any animal that has a bad reputation. It might be a spider, toad, or even a mole. Basically, it's just an animal that doesn't have a lot of friends. But just because you don't like an animal, that doesn't mean it's not important. We need unhuggables too!

### Who Am I?

Can you guess what this "unhuggable" animal is.

- I can catch and eat up to 600 mosquitoes an hour.
- Females of my kind usually have one baby a year.
- I may live to be 32 years old.
- I'm very clean.
- I can fly at heights of 2 miles at up to 60 miles per hour
- Some of my kind eat scorpions (but we spit out their tails)
- I fly by flapping my fingers.
- I'm not blind.

I'm a: \_\_\_\_\_  
hint: see article on page 12

## Putting the Fire Out...COLD!

Driving the Cascade Lakes Scenic Byway, you think back on the past year and how much you've looked forward to this vacation. Two weeks in the Cascade Mountains of Central Oregon where you and your family plan to hike, swim, bike and gaze at the stars after the kids are tucked into their sleeping bags for the night. You plan on camping, though you're not sure where. There are so many great campsites along the lakes, streams and high elevation meadows. The family car is

loaded with camping equipment, tons of food, and you haven't forgotten the shovel and bucket for the campfire that everyone is looking forward to. After all, a campfire is one thing we all remember from family camping trips and to not have one is, well, no fun at all.

Every year campfires left unattended and abandoned have the potential of costing millions of dollars in suppression and lost resources. Here on the Deschutes National Forest, abandoned campfires are the number one cause of

human caused fires. Most of these abandoned campfires stay small and very easy for firefighters to suppress but it only takes one escaping fire to jeopardize lives, destroy property and change a beautiful area forever.

Here are some simple steps to help you properly build and extinguish a campfire. (See Renee's illustrations)

Welcome to Central Oregon! Enjoy the beauty and wonder of our area and remember: "Put it Out, Dead Out!"

- Cathy O'Brien, Fire Prevention Officer

### Building a Fire...

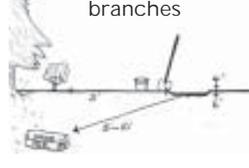


Check before you go. For campfire restrictions Call: 1-800-523-4737 or Visit: [www.fs.fed.us/r6/centraloregon/fire](http://www.fs.fed.us/r6/centraloregon/fire)



Make sure you have a shovel and water very close by

Choose a level area with no overhanging branches

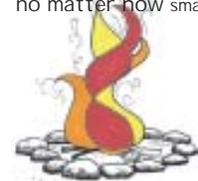


Dig a 4" to 6" pit Clear away all vegetation, including pine needles



Circle pit with rocks Pile firewood up wind and 10 feet from pit

Keep fire small & manageable  
Keep fire contained inside fire pit  
NEVER leave a campfire unattended, no matter how small



### Putting the Fire Out...Cold



Slowly add water to put out all flames



Scatter, scrape, and separate



Add more water until the steaming stops



Feel for heat

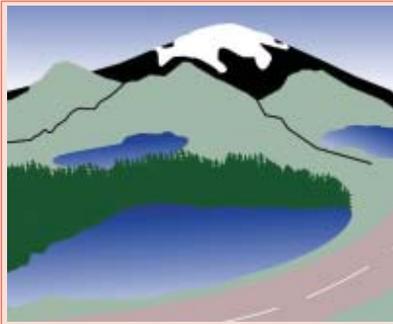


Feel to make sure fire is out COLD!

Illustrations - Renee Lamoreaux, Fire Prevention Officer

# Take the Road Less Traveled

Scenic Byways are a way of getting in touch with the pulse of the communities and cultures of central Oregon. Traveling the three National Scenic Byways on the Deschutes National Forest will bring you face to face with incredible scenery and fascinating stories about people of the past. Each byway offers opportunities to learn about Native American lifestyles and their history, early explorers and trappers traveling through as yet unmapped territory, homesteaders eking out a living on the high desert, and loggers, farmers, and miners changing the look of the landscape.

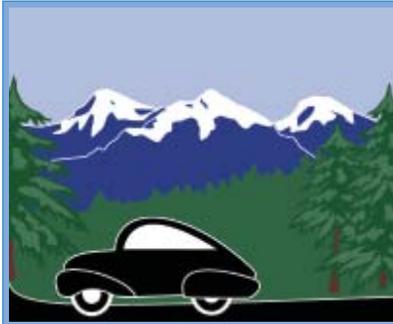
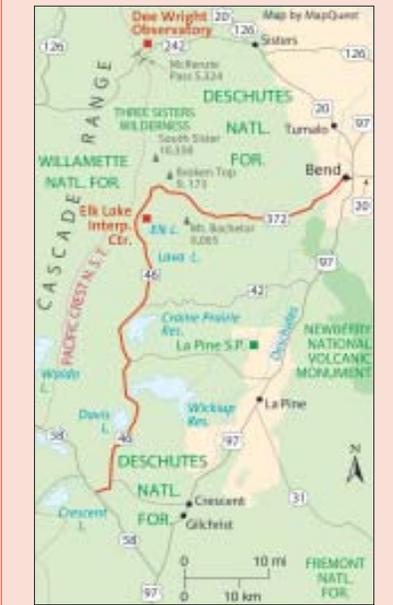


The Cascade Lakes National Scenic Byway is our “String of Pearls.” This 66 mile drive takes you closer to the sky as you drive through Cascade peaks and alpine lakes. The air has an entirely different feel up here. You follow the journey of water from its icy origins to springs, streams, rivers, and lakes that have transformed the volcanic landscape into meadows, wildflower carpets, and mixed conifer forests.

Selected by Scenic America as one of the nation’s 10 most important byways, this route offers many opportunities for experiencing the outdoors in a wilderness setting, places to watch wildlife, open spaces for hiking and biking, a variety of lakes for fishing and boating, and special interpretive sites and trails designed for learning more about this incredible environment.

The Ray Atkeson Wayside tells you about Oregon’s photographer laureate who used photography as a way to create awareness for the preservation of Oregon’s scenic beauty. The Soda Creek Interpretive Site will teach you about how a creek was restored from a straight channel to its natural meanderings. The new Wickiup Dam Interpretive Site will describe Oregon’s last big log drive and the construction of the dam.

To access the Cascade Lakes Scenic Byway, follow signs through Bend to Mt. Bachelor and the Cascade Lakes. Return north to Bend via Highway 97 or by crossing the Deschutes and Little Deschutes rivers on Forest Road 42. The best time to take this drive is between June and October. Minimum driving time is 3 to 5 hours. This drive is closed during winter beyond Mt. Bachelor to south of Davis Lake.



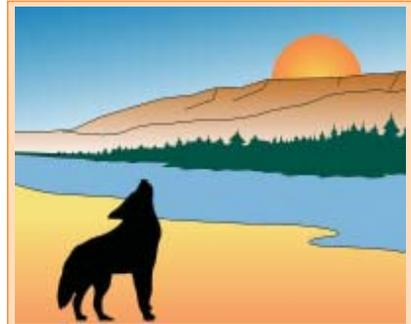
The McKenzie Pass-Santiam Pass National Scenic Byway starts in Sisters and quickly climbs two passes while carving through 82 miles of jagged lava landscapes suddenly softened by lush forests and sheltering trees. This dramatic byway follows an 1860s wagon road. Brilliant views of contrasting dark and light are offered over a foreground of lava and a backdrop of the magnificent North and Middle Sisters. The hidden South Sister is visible from the Cascade Lakes National Scenic Byway to the south.

The stark contrasts between fire and ice give way to a softer textured environment as you drive through old growth forests and the gentler west side understorey of vine maple and other deciduous vegetation. A pause at Proxy Falls will take you to fern covered hillsides and a beautiful display of cascading water. A short hike to Linton Lake is worth the refreshing view. Native American stories and pioneer history await you at Dee Wright Observatory, Sahalie Falls, Koosah Falls, and the new scenic byway portal at the McKenzie Ranger District.

You can catch this rush of a ride by heading west on Oregon Route 242 after slowly making your way through the town of Sisters. The loop drive will take you up to McKenzie Pass for some challenging driving, along the McKenzie River on Oregon 126, over the Santiam Pass, past Suttle Lake and Black Butte Resort, and then back to Sisters. The best time to take this drive is between July and October as McKenzie Pass is closed during winter. Minimum driving time is 3 to 5 hours.



Cascade Lakes, McKenzie Pass-Santiam Pass and Outback National Scenic Byway maps courtesy of [www.byways.org](http://www.byways.org). Visit their website for more information.

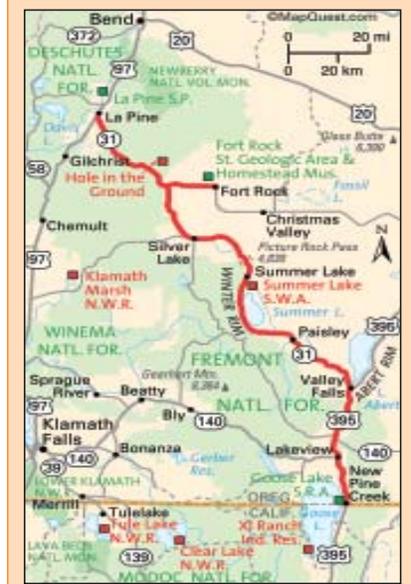


The Outback National Scenic Byway, with its “Sounds and Colors of Silence,” is a 171 mile drive that takes you through remote small towns with tall tales as reminders of the not too distant past. This is a place where silence is transformed into pearls of wisdom and living history through the stories told by volunteers at Fort Rock Homestead Village Museum. There are several homestead-era structures which were moved from their original locations to be preserved and protected at the museum site. Visiting the cabins, school house, and church will help you appreciate the lifestyle of these homesteaders who settled the area in the early 1900s.

The geology and history of this remote expanse of rimrock and sage await discovery one mile away at Fort Rock State Park. The fortress-like rock formation that rises above the sagebrush plains is an unforgettable sight.

Summer Lake is a wildlife area that is part of the Pacific Flyway where waterfowl can be viewed. Silver Lake is less of a lake now than a dry basin. Scattered throughout the desert are hot springs. There is an attractive rest area at Summer Lake halfway between Highway 97 and Highway 395. Lakeview is the “tallest town” in the state at 4,800 feet with Oregon’s only geyser Old Perpetual shooting 60 feet in the air every minute or so.

To find the Outback Scenic Byway, drive 33 miles south of Bend on Highway 97 to the junction 2 miles south of LaPine and then turn southeast on Oregon 31. Fort Rock Homestead Village Museum and Fort Rock State Park are 30 miles south on Oregon 31 and 7 miles east to the town of Fort Rock. The best time to enjoy this drive is spring and fall. Minimum driving time is 3 to 4 hours.



# Get High on Nature!

## 2008 Visitor Center Hours & Interpretive Program Schedule

### Lava Lands Visitor Center, Lava Butte and Lava River Cave

When: May 7-July 1, Wed-Sun, 9:00-5:00  
 July 2-Sep 14, 7 days a week, 9:00-5:00

Interpretive programs are offered June 25 to September 14 at Lava Lands Visitor Center. Check at the information desk for current schedule. Lava River Cave is a self-guided exploration of a mile-long lava tube. Lantern rentals available for \$3.

### Interpretive Programs

When: June 25-September 14  
 Where: Lava Lands Visitor Center  
 Mount Bachelor-Pine Marten Lodge  
 Newberry Caldera-various locations  
 Cascades Lakes Highway-various locations  
 High Desert Museum

Interpretive & Educational program schedules will be posted at entrance stations, information desks, and campground bulletin boards. Please check the weekly schedule for times and locations throughout the summer. For more information call Lava Lands Visitor Center at 541-593-2421.

## Passport in Time (PIT) Projects

Pack your bags and head out but don't forget your Passport in Time (PIT). As part of a PIT crew, you work alongside archaeologists and historians on all sorts of projects. Archaeology digs, restoring historic structures and recording oral histories are a few possibilities. There is no fee to become a PIT partner. Is your local National Forest sponsoring a PIT project this summer? Call the Supervisors Office of any National Forest and ask for the *PIT Traveler*, the Passport In Time newsletter, or write to: Passport In Time Clearinghouse, PO Box 31315, Tucson, AZ, 85751-1315 or visit our web site at: [www.passportintime.com](http://www.passportintime.com)

## Historic Elk Lake Guard Station

June 13 through Sept 12, 9:30 am -4:30 pm  
 Visitor information and historic site interpretation. Tour the station log cabin and grounds to see how Forest Service guards lived in the 1930s and 1940s. Hiking Trail connects guard station to Elk Lake campground and resort.

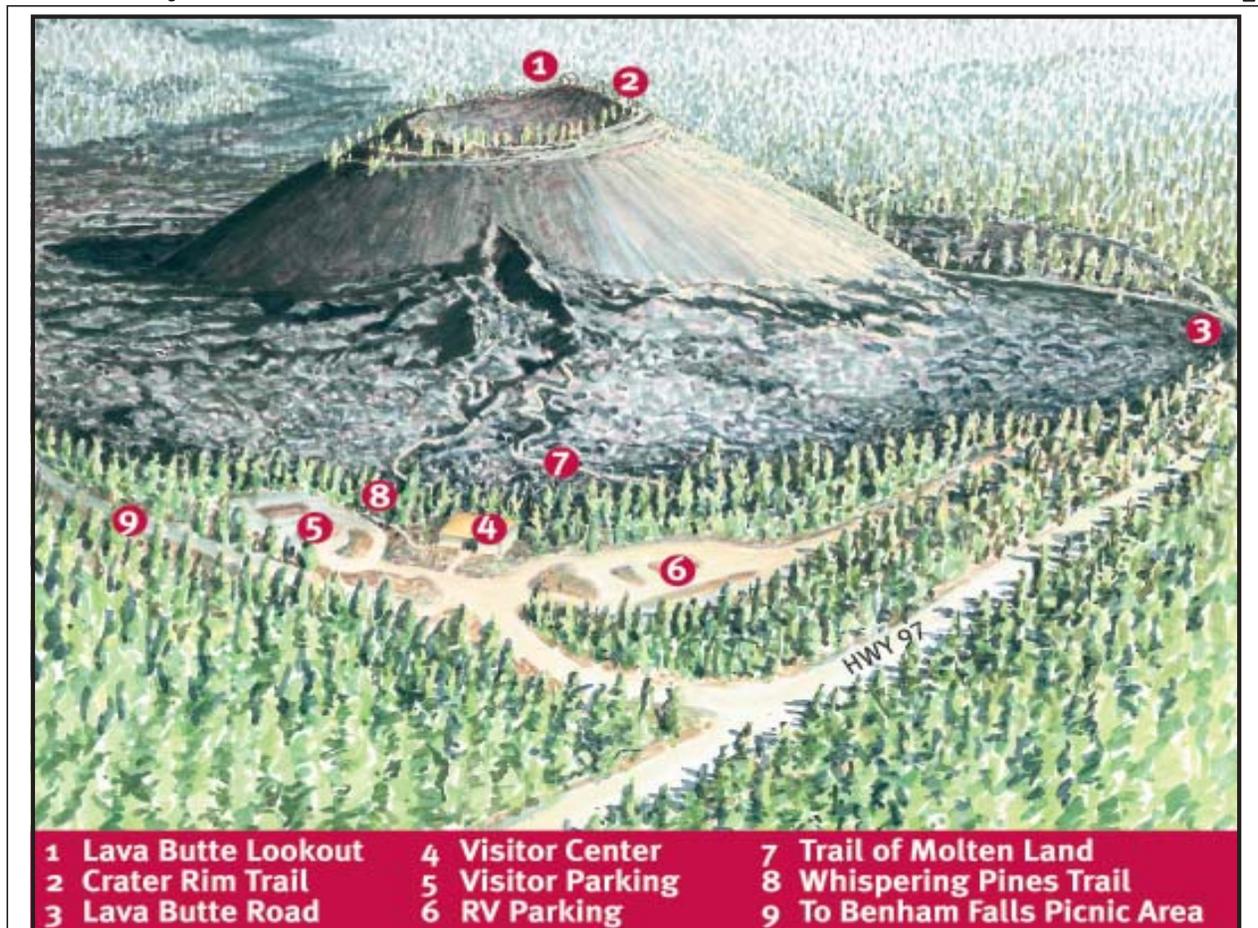
## Redmond Air Center

Redmond Air Center is a hub for wildfire suppression and fire-related aviation activities for the Pacific Northwest region. Located 2 miles east of Redmond at the north end of the Redmond Airport, the facilities are open for public tours Monday thru Friday from 9:00 to 10:30 a.m. and 1:00 to 3:00 p.m. Visitors may tour the Redmond Smokejumper Base, the National Interagency Incident Support Cache, and the Redmond Air Tanker Base during the operating season. Please schedule tours in advance by calling the Center at (541) 504-7200.

## High Desert Museum

Through exhibits, wildlife, and living history, the High Desert Museum creates learning experiences to help audiences discover their connection to the past, their role in the present, and their responsibility to the future. The museum is open daily from 9:00 to 5:00. For more information and rates please call 382-4754 or visit their website at [highdesertmuseum.org](http://highdesertmuseum.org).

# Newberry National Volcanic Monument - Lava Lands Visitor Map



Artist: Dennis McGregor



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